

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  
ABB AB  
Legal Compliance/  
Intellectual Property  
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Sverige

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) 18 -04- 2005

Applicant's or agent's file reference

9574WO/JS/LA

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/SE2004/002003

International filing date (day/month/year)

22-12-2004

Priority date (day/month/year)

23-12-2003

International Patent Classification (IPC) or both national classification and IPC

H02H3/02

Applicant

ABB Research Ltd et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

2005-07-18

2005-10-23

3. For further details, see notes to Form PCT/ISA/220.

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Form PCT/ISA/237 (cover sheet) (January 2004)

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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/SE2004/002003

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language, \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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International application No.

PCT/SE2004/002003

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>2-4, 12-14</u>	YES
	Claims	<u>1, 5-11</u>	NO
Inventive step (IS)	Claims		YES
	Claims	<u>1-14</u>	NO
Industrial applicability (IA)	Claims	<u>1-14</u>	YES
	Claims		NO

2. Citations and explanations:

The claimed invention relates to controlling a power network during a fault condition. The object of the invention is to avoid that protecting devices are unnecessarily tripped. This is accomplished by a delay caused by a voltage raising means.

Documents cite in the International Search Report:

D1: US 5867356 A

D2: EP 0474186 A2

D1 discloses a current limiting system, for example used for power transmission (column 1, lines 6-11). The system comprises two branches, one comprising a main switch (16) and the other comprising a current limiting element (18) and a switch (20). A control unit (27) controls the main switch (16), as well as the switch (20), as disclosed in claim 1. The control unit may be implemented as a suitably programmed computer (column 4, lines 8-13).

D2 shows a system comprising a series switch (2) and parallel connection of a circuit breaker (1), preferably implemented as a GTO-thyristor, a current limiting impedance (4) and a voltage limiting element (5) (fig. 1, column 5, line 15 - column 6, line 21).

The invention according to independent claims 1, 6 and 10 is known from D1. The invention according to claims 5, 7-9 and 11 is also known from D1.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

The further details added in claims 2-4 and 12-14 are not explicitly mentioned in D1, but since these additions concern well known circuit elements, which are used for their usual purposes, without accomplishing any special technical effect, the invention according to claims 2-4 and 11-14 is not considered to involve an inventive step.

The invention according to claims 1 and 5-11 is not novel. The invention according to claims 2-4 and 12-14 is not considered to involve an inventive step. The invention according to claims 1-14 is industrially applicable.

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International application No.

PCT/SE2004/002003

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawing or on the question whether the claim are fully supported by the description, are made:

Claim 12 refers to a method according to claims 8-9. These claims do not concern a method. However, claims 10-11 define a method. It is assumed that claim 12 actually should refer to these claims. The same line of reasoning should also be applied on claim 14.

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